ABSTRACT

The present invention comprises an illumination portion (11), and, a light receiving portion (12) having an image sensor (27) which are disposed in a surveying machine body (8), arithmetic means (38) for calculating a position of a reflection light image (MO) from a reflector (2) in an area of the image sensor (27) based on a received light of the image sensor (27), a rotation mechanism for rotating the surveying machine body (8) so as to position the reflector (2) on a light receiving optical axis of the light receiving portion (12) based on the position obtained by the arithmetic means (38), a storing portion (45) for storing a quantity of light of each pixel in the image sensor (27), and an edge position detecting portion (46) for detecting a beginning edge position (La) and end edge potion (Lb) of the reflection light image (MO) every scanning line in the image sensor (27).